

Remarks

The problem addressed in the instant invention is to find a polymer system that can be used to produce an "in-color", thermoformable sheet having a class A automotive-type surface (i.e., capable of deep draw thermoforming and subsequent back-filling to make and exterior grade automotive part) that can be mass produced directly in an essentially a one-step co-extrusion manufacturing process. In accomplishing the above, the selection of an ionomeric polymer system in the present application simultaneously exhibits a host of desirable properties. In particular, to be economically attractive the sheet is manufactured directly by co-extrusion of multiple layers that are (at a minimum) significantly pigmented yet adhesively bonded to each other and capable of duplicating the modern clear-coat/color-coat concept of contemporary automotive finishes. Also, at least the outer surface layers are compatible with additive packages that impart weatherability (such as ultra violet light stability) as well as the use of special effect pigments (like metal flake, etc.). And perhaps most significantly from a patent novelty and non-obviousness view point, the use of the clear-coat ionomeric outer layer co-extruded with a thicker ionomeric containing underlying pigment layer is factually a solution to the historic problem associated with deficiencies such as appearance degradation after thermoforming due to thin pigment carrying layer or thin pigment layer streaking after elongation (see for example the last sentence of paragraph [0010] and the fourth sentence of paragraph [0016] of the US 2002/0055006 A1 published version of the instant application). In other words, the present invention by distributing the pigment through out a relatively thick layer within the multi-layer sheet alleviates a problem associated with deep draw thermoforming of previously known "in-color" pigmented sheet. It is this combination of above features that is felt to represent patentable novelty and non-obviousness.

At present Claims 1, 3, 4, 12, 14, 17, 18, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by a Japanese patent abstract J56146758 issued to Toray Industries, Inc. Reconsideration of this rejection is requested.

As amended the independent Claims 1, 12 and 17 now explicitly recite the presence of at least one additional co-extruded third polymeric layer in contact with said second co-extruded polymeric layer and the further limitation that at least one of said co-extruded first or second polymeric layers contain pigments, dyes, flakes, or mixtures thereof. Since the other rejected claims are dependant from these parent claims, they too are correspondingly limited. In view of these differences it is felt that there is a basis for the withdrawal of the §102(b) rejection and such action is requested.

At present Claims 7, 9 and 45 are rejected under 35 U.S.C. §102(b) as being anticipated by a Japanese patent abstract publication number 03024954 (Kureha Chem. Ind. Co. LTD). Reconsideration of this rejection is requested.

As amended the independent Claims 7 and 45 now explicitly recite the presence of at least one additional co-extruded third polymeric layer in contact with said second co-extruded polymeric layer and the further limitation that at least one of said co-extruded first or second polymeric layers contain pigments, dyes, flakes, or mixtures thereof. Since Claim 9 is dependant from parent Claim 7, it too is correspondingly limited. In view of these differences it is felt that there is a basis for the withdrawal of this §102(b) rejection and such action is requested.

At present Claims 7, 9, 11, 45, 51, and 53 are rejected under 35 U.S.C. §102(b) as being anticipated by a patent issued to Lee et al. (USPN 5,643,999). Reconsideration of this rejection is requested.

As amended the independent Claims 7 and 45 (as well as Claims 43, 47 and 49 from which Claims 51 and 53 also depend) now explicitly recite the presence of at least one additional co-extruded third polymeric layer in contact with said second co-extruded polymeric layer and the further limitation that at least one of said co-extruded first or second polymeric layers contain pigments, dyes, flakes, or mixtures thereof. Since Claims 9 and 11 are dependant from parent Claim 7, they too are correspondingly limited. In view of these differences it is felt that there is a basis for the withdrawal of this §102(b) rejection and such action is requested.

At present Claims 12, 14, 16, 47, 51, and 53 are rejected under 35 U.S.C. §102(b) as being anticipated by a European patent issued to Nitto Boseki Co., LTD (EP 1 041 110 A1). Reconsideration of this rejection is requested.

In asserting the above rejection the Examiner cites paragraphs [0057] to [0066] and Examples as teaching an article having coextruded ionomer. The Examiner's attention is directed specifically to paragraph [0064] wherein the skirt composition making up this article is clearly taught to be 10 to 45 parts EVA, 55 to 90 parts polyolefin and 150 to 400 parts inorganic filler. This teaching is inconsistent with the claim language "a second co-extruded polymeric sheet layer consisting essentially of ethylene polar copolymer". Similarly, the teaching at paragraph [0065] relative to producing a laminate skirt having a surface composed of an ionomer is clearly one of extruding ionomer subsequent to the act of sheet-forming which is categorically a lamination and not applicants "co-extrusion". All examples support the conclusion that the "consisting essentially of" claim language is not taught nor is the "co-extruded polymeric layers" being disclosed. It is felt that these differences are sufficient to clearly distinguish the subject matter sought to be patented from the cited reference, without amendment.

Nevertheless, as amended, the independent Claims 12, and 47 (as well as Claims 43, 45 and 49 from which Claims 51 and 53 also depend) now explicitly recite the presence of at least one additional co-extruded third polymeric layer in contact with said second co-extruded polymeric layer and the further limitation that at least one of said co-extruded first or second polymeric layers contain pigments, dyes, flakes, or mixtures thereof. Since Claims 14, and 16 are dependant from parent Claim 12, they too are correspondingly limited. In view of these differences it is felt that there is a basis for the withdrawal of this §102(b) rejection and such action is requested.

At present, Claims 3, 4, 6, 14, 16, 20, 43, 49, 51, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over a Japanese patent abstract J56146758 issued to Toray Industries, Inc. Reconsideration of this rejection is requested.

In asserting the above rejection the office Action states, in part, that the JP'758 reference does not specifically teach that the film comprises three or more layers or that one or more of the layers comprises pigments or dyes or that one layer is clear and the other is colored". It is respectfully submitted that in view of the enclosed amendments and these specifically acknowledged difference (lack of necessary teaching directed to critical elements) the JP'758 reference does not represent nor can it serve as a basis for a *prima facie* showing of obviousness. One of ordinary skill in the art would not resort to the teachings relative to making a nominal 100 micron thick plastic laminated food wrap to produce a decorative ionomeric surfaced sheet with an appearance of a high quality automotive finish capable of subsequent thermoforming and injection backfilling (see abstract).

In view of the above differences it is felt that there is a clear basis, at law, to withdraw the §103 rejection and such action is requested.

At present, Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over a Japanese patent abstract publication number 03024954 (Kureha Chem. Ind. Co. LTD) or a patent issued to Lee et al. (USPN 5,643,999). Reconsideration of this rejection is requested.

In asserting the above rejection the office Action again states, in part, that the reference relied upon to reject claims do not specifically teach that the film comprises three or more layers or that one or more of the layers comprises pigments or dyes or that one layer is clear and the other is colored". It is respectfully submitted that in view of the enclosed amendments and these specifically acknowledged difference (lack of necessary teaching directed to critical elements) the JP'954 reference and the Lee et al. reference do not represent nor can they serve as a basis for a *prima facie* showing of obviousness. One of ordinary skill in the art would not resort to the teachings relative to making a shrink wrap film or an adhesive to produce a decorative ionomeric surfaced sheet with an appearance of a high quality automotive finish capable of subsequent thermoforming and injection backfilling (again see abstract). The concept of "shrink wrap" and associated oriented film is totally inconsistent with Applicants non-oriented decorative sheet capable of being thermoformed. Similarly, the concept of an adhesive composition useful

in bonding ionomer to other polymeric layers is merely an element in some specific embodiments of the present invention and clearly not a *prima facie* showing of obviousness (see for example the tie layers in Claim 31).

In view of the above it is felt that there is a clear basis, at law, to withdraw this §103 rejection and such action is requested.

In view of the above brief remarks and the enclosed amendments it is felt that all claims are now in condition for allowance and such action is requested. Should the Examiner believe that an interview or other action in Applicant's behalf would expedite prosecution of the application, the Examiner is urged to contact Applicant's attorney by telephone at (302) 992-6824.

Respectfully submitted,



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